Keeping Your Hatchery Clean

Disinfectants

http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5404a2.htm

disinfection

Chemical compounds	Chlorine* 0.01%–5%	Iodine iodophor 0.5%–5%	Chlorhexidine 0.05%–0.5%	Alcohol† 70%	Oxidizing agents 0.2%–3%	Phenol 0.2%–3%	Quaternary ammonium 0.1%–2%
Selected products	Clorox®	Tincture/ Provodine	Nolvasan®	Rubbing alcohol	Virkon-S®	pHisoHex®	Roccal-D®
Effectiveness of chemical disinfectants against certain organisms§							
Bactericidal	Good	Good	Good	Good	Good	Good	Good
Bacterial spores	Good¶	Poor	Poor	Poor¶	Fair to good	Poor	Poor
Virucidal	Good	Good	Poor	Fair	Good	Poor**	Poor
Envelope viruses	Yes	Yes	Limited	Yes	Yes	Limited	Limited
Nonenvelope viruses	Yes	Limited	No	No	Yes	No	No
Fungicidal	Good	Fair	Fair to good	Good	Fair	Fair	Fair
Protozoal parasites	Fair (concentrated)	Poor	Poor	Poor	Poor	Poor	Fair (ammonia)
Properties of chemical disinfectants††							
Effectiveness in organic matter	Poor	Poor	Fair	Poor	Poor	Good	Poor
Inactivated by soap	No	Yes	No	No	No	No	Yes
Effective in hard water	Yes	No	Yes	Yes	Yes	Yes	No
Residual activity	Poor	Poor	Good	Fair	Poor	Poor	Fair

Source: Adapted from the Nebraska Cooperative Extension and the U.S. Department of Agriculture, 2003.

* Bleach should be mixed fresh daily and replaced whenever contaminated with organic matter (1:32 dilution of 5.75% solution provides >1,500 ppm chlorine).

† Rubbing alcohol is flammable.

§ Effectiveness as a bactericidal, virucidal, or fungicidal agent and effectiveness in eliminating bacterial spores and protozoal parasites: good = effective; fair = moderate effect; and poor = inferior effect. Effectiveness in eliminating envelope and nonenvelope viruses: yes = effective; limited = moderate effect; and no = not effective.

¶ Alcohol synergistically potentiates the sporicidal effect of hypochlorites (chlorine). Mix 5.75% solution of hypochlorite 1:1 with 50% ethyl alcohol/water. Mix fresh at the time of use and provide contact time of ≥30 minutes.

** The effectiveness of 2-phenylphenol (ortho-phenylphenol) is fair.

What should I clean?

Hands:

- use antimicrobial soap (Hibiclens)
- consider gloves with certain species

Floors:

- sweep regularly, use a strong disinfectant, phenol product (1-Stroke Environ)
- footbaths at entrance is recommended

No trash receptacle in the room

What should I clean?

Counters, water reservoirs, wet bulbs, thermometers, etc.:

- good place for a quaternary ammonium (Roccal D-plus) or chlorhexidine product (Nolvasan)

Incubators/Hatchers:

- phenol product or quaternary ammonium, depending on your equipment
- consider you equipment's material and access to wires, electronics and water reservoirs
- phenol products can be corrosive to wires/electronics
- wood is porous and difficult to rinse
- VENT, VENT, VENT

Maintenance

Maintenance

Annual Maintenance:

- door seals – old equipment may have products that should be replaced
- test equipment thermometers with certified thermometers for comparison (Humboldt thermometers)
- test backup thermostats
- test ether wafers

Maintenance

Sterilization:

- DZF uses Anprolene Sterilizers
- active ingredient is Ethylene Oxide (EtO or EO)
- remove batteries & wrap separately to prevent a spark/ignition of Ethylene Oxide gas
- Humidity is important – 35% minimum
- VENT, VENT, VENT

Be Creative

Egyptian plovers

Problems:

- Delicate, thin shelled eggs, laid in sand substrate

- High weight loss (>15%) = late DIS, weak chicks, lower chance of survival

- Difficult to candle due to egg pigmentation

Egyptian plovers

Solutions: Copy the birds!

-Pigmentation = Egg Buddy to monitor heart rate and activity

-Saturation humidity

-Tegaderm, white glue (Elmer's), nail polish

-Bury the eggs in moistened sand!

Strong, active chicks from eggs with 10% weight loss

Egyptian Plovers